Load Forecasting For Transmission Planning In Michigan

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Today's Topics

- *Global issues regarding long term forecasts*
- *Specifics of a long term load forecasts*

Fundamentals

- ***Long range forecasts are essential to proper transmission planning***

- ***By federal law and regulation, transmission owners are responsible for transmission reliability. Their customers are not.***

Transparency in Long Range Forecasts

1. ***Is the current load forecast in Michigan open and transparent?***

2. ***If not, what change is necessary to make it so?***

3. ***Are companies receptive to opening their load forecasts for review to interested stakeholders before it is finished within their own organization?***

4. ***How can disagreements be aired (recall Philip's Law)?***

5. ***How can forecasts be properly vetted?***

6. ***Can organization charts be provided for areas of the company concerned with load/sales forecasting similar to what ITC Holdings provides on OASIS?***

Differing Purposes of Forecasts For Transmission vs. Generation

1. ***Peak demand forecast is a very important driver of the Transmission Reliability Planning process.***

2. ***Generation planning is concerned with both capacity and sales.***

Concerns Unique To Transmission Planning

1. *Inflexibility – you CAN'T import transmission; you can import generation capacity.*

2. *Transmission needs to be robust, i.e. perform under a wide range of possible conditions.*

3. *Transmission reliability issues are more concerned with granularity, i.e. growth (or decline) of load at differing rates on different sections of the grid.*

4. *What level of granularity is needed?*
   a. *County*
   b. *Station*

Transmission Needs To Be Robust

- ***Is a 50/50 forecast appropriate for transmission reliability planning?***
- ***Would an 80/20 or 90/10 forecast better meet the need for a robust transmission system?***
- ***What is the appropriate "base" for transmission reliability planning?***
- ***Dealing with uncertainty regarding interruptible loads***

Can In-state Resources Be Leveraged?

- *Michigan State University*
- *University of Michigan*
- *Wayne State University*
- *Oakland University*
- *Others*

Specifics Of A Long Term Forecast

How Do Load Forecasts Compare?

- *CNF & 21st CEP vs. Current Forecast*
- *Five – Ten – Fifteen years*
- *How accurate were previous forecasts?*

Specifics Of Model Inputs

- ***Demographic/economic/other***
- ***Sources Of Economic Data***
- ***Weight Given Local And National Sources***
- ***"Best" Sources To Use***

Methodology Employed

- ***Model Structure***
  - ***Sales/demand hybrid***
  - ***Direct Demand***
- ***Description Of Model(s)***
- ***How well does it "fit"?***

How Is Weather Effect Included?

- *Is 30 year normal used?*
  - *Start/stop years*
- *Are weather trends considered?*
  - *Time scale*
- *Is climate change considered?*

How Are Other Externalities Included?

- *PHEV*
- *Demand Side Management*
- *Energy Efficiency Improvements*
- *Extreme Loads*
- *Others*

QUESTIONS?